

**ELECTRODE WIRE FOR WIRE ELECTRICAL DISCHARGE MACHINING**

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**Abstract of JP2003291030**

**PROBLEM TO BE SOLVED:** To provide a structure of electrode wire for wire electrical discharge machining for manufacturing wire with reduced manufacturing processes and greatly improved machining speed as compared with conventional electrode wire and providing roughness of a finished surface and dimension accuracy equivalent to those by conventional electrode wire, and a method for manufacturing the same.

**SOLUTION:** Electrode wire for electrical discharge machining 1 has a core material 2 composed of brass containing 68-82 wt.% of Cu and rest of Zn and a copper-zinc alloy multi layer structure having concentration gradient with increasing zinc concentration as it gets apart from the core material 2. An outermost layer contains 95% or more zinc concentration and has a thickness of 8-16% of total outer diameter. The method for manufacturing the electrode wire for electrical discharge machining 1 comprises a first process to apply zinc plating of a thickness of 10-50 [ $\mu$ m] on brass wire of 0.5-1.3 mm containing 68-82% wt.% of Cu and rest of Zn, a second process to perform heat treatment by passing through a heating furnace of 500-2,000 mm length generating 800-900[deg.]C oxidation atmosphere at 3.0-10 m/min speed, and a third process to extend the wire thereafter.

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